BRUHAT BANGALORE MAHANAGAR PALIKE

Project Division, Yelahanka Zone

SCHEDULE - B

Providing and Installation of Decorative Tusker Street Light Poles and Lights from Tirumala Daba to M S Palya Circle in Ward No.03

SNo	Quantity	Item Name	Unit	Approved Rates of Sri. A N Madhusudhan (Suraksha Electricals)	
				In figures	In words
1	315.00	Removing and resetting of footpath Slab (Approved arrival Rate)	Sqm	267.55	Rupees Two Hundred Sixty Seven And Paise Fifty Five Only
2	1092.00	Removing and resetting of Kerb Stone (Approved arrival Rate)	m	134.34	Rupees One Hundred Thirty Four And Paise Thirty Four Only
3	303.79	Earth work excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work. Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 14 m3)(V-I.No 1.4,Page No-5 PWD SR 2021-22) & (V-III Page No.3, Item No.1.1 Cof PWD SR 2021-22)	Cum	296.01	Rupees Two Hundred Ninety Six And Paise One Only
4	388.85	Cost of Haulage Excluding Loading and Unloading Taking output 25 t load and lead 10 km = 250 t.km (V-III Page No.3, Item No.1.4C of PWD SR 2021-22) 5 rs /km= 8km = 5*8 = 40	t.km	45.54	Rupees Forty Five And Paise Fifty Four Only
5	84.00	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) Mix 1:3:6 (M10) Using 20 mm nominal size graded crushed coarse aggregates (V-I Page No.15, Item No.2.1.4 of PWD SR 2021-22)	Cum	6746.70	Rupees Six Thousand Seven Hundred Forty Six And Paise Seventy Only
6	6.47	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) Mix 1:3:6 (M10) Using 40 mm nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)	Cum	6548.60	Rupees Six Thousand Five Hundred Forty Eight And Paise Sixty Only

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				In figures	In words
7	48.55	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates (V-1,P.No.17, I.No.2.4.2 of PWD SR 2021-22)	Cum	7478.52	Rupees Seven Thousand Four Hundred Seventy Eight And Paise Fifty Two Only
8	2.28	Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)	Tonne	117639.09	Rupees One Lakh(s) Seventeen Thousand Six Hundred Thirty Nine And Paise Nine Only
9	315.00	Providing and Fixing Pre cast covering Slab 100mm thick made out of CC, jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge.	Sqm	2379.45	Rupees Two Thousand Three Hundred Seventy Nine And Paise Forty Five Only
10	1306.67	Providing and fixing pre cast solid cement concrete kerb stones made out of CC M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete.	nos	519.57	Rupees Five Hundred Nineteen And Paise Fifty Seven Only
11	1866.67	Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces (V-III, P.No.56, I.No.8.10 of PW, PWD SR 2021-22)	Sqm	87.97	Rupees Eighty Seven And Paise Ninety Seven Only
12	50.00	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by	Nos	7410.53	Rupees Seven Thousand Four Hundred Ten And Paise Fifty Three Only

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				In figures	In words
13	50.00	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by	Nos	9521.92	Rupees Nine Thousand Five Hundred Twenty One And Paise Ninety Two Only
14	242.00	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by	Nos	12730.39	Rupees Twelve Thousand Seven Hundred Thirty And Paise Thirty Nine Only
15	100.00	Supplying and Fixing of. mm dia class A GI pipe bracket up to 2 Mtrs long bent at suitable angle and fixing to this bracket 1x40/2x40 watts fluorescent tube street light fitting of all capacities to GI or CI or rail or RCC pole / wall using suitable clamps, bolts, and nuts and wiring using suitable capacity wires.Using 32mm dia G.I.Pipe	Nos	864.22	Rupees Eight Hundred Sixty Four And Paise Twenty Two Only
16	21.00	Fabricating, supplying and erecting swaged tubular pole of height ...Mtr having three sections, and providing two coats of red oxide paint and finished with two coats of enamelled paint of approved quality and colour and M.S. base plate of suitable size welded at the bottom of the pole(as per IS) and 40mm dia GI / flexible PVC pipe of 1 mtr length fitted to the heavy gauge polycarbonate control box including 5way connector of size 167x125x82mm for 7.5M pole/200x160x98mm for remaining length of pole with front opening cover, with locking arrangements and suitable capacity MCB / DP switch, The pole shall be erected in cement concrete work (1:2:4) including excavation and refilling of planting depth of the pole to the ground level and the coping CC shall be up to 0.6M above ground level as per IS 2713 - 7.Erection of heavy duty pole on Footpath / median 9Mt (5Mt Hb,165.1mm dia 4.85mm thick x2M Hm, 139.7mm dia 4.50mm thick x 2M Ht,114.3mm dia 3.65mm thick) as per IS 410 SP 32	Nos	17305.06	Rupees Seventeen Thousand Three Hundred Five And Paise Six Only

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				In figures	In words
17	4.00	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 Mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories.Single bracket 1.5 Mtr. Length	Nos	1241.99	Rupees One Thousand Two Hundred Forty One And Paise Ninety Nine Only
18	17.00	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 Mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories.Double bracket 2x1.5 Mtr. Length	Nos	2030.65	Rupees Two Thousand Thirty And Paise Sixty Five Only
19	4000.00	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 25 sqmm	Mtrs	186.30	Rupees One Hundred Eighty Six And Paise Thirty Only
20	500.00	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 35 sqmm	Mtrs	232.88	Rupees Two Hundred Thirty Two And Paise Eighty Eight Only
21	4500.00	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required In existing trench/duct. 25 sqmm to 75 sqmm	Mtrs	16.04	Rupees Sixteen And Paise Four Only
22	2800.00	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs	78.66	Rupees Seventy Eight And Paise Sixty Six Only
23	1750.00	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS:8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100Volts as per IS-694:1990 3C X 1.5Sq.mm	Mtrs	56.92	Rupees Fifty Six And Paise Ninety Two Only
24	60.00	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than .25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.40mm	Mtrs	346.73	Rupees Three Hundred Forty Six And Paise Seventy Three Only
25	12.00	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.35Sqmm	nos	362.25	Rupees Three Hundred Sixty Two And Paise Twenty Five Only
26	664.00	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.25 sqmm Long Barrel	nos	20.70	Rupees Twenty And Paise Seventy Only
27	6.00	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40mm dia 2.9mm thick 2.5 mtr long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400mm with a cast iron cover. The earth electrode shall have staggered holes of 12mm dia and the electrode should be covered 150mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.	nos	4295.22	Rupees Four Thousand Two Hundred Ninety Five And Paise Twenty Two Only
28	48.00	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs	263.92	Rupees Two Hundred Sixty Three And Paise Ninety Two Only

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				In figures	In words
29	210000.00	Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete16SWG	Sqmm	0.36	Rupees And Paise Thirty Six Only
30	6.00	Supplying and fixing Moulded Case Circuit Breaker (MCCB)over the existing wood/panel board using necessary screws,bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA.	nos	6623.95	Rupees Six Thousand Six Hundred Twenty Three And Paise Ninety Five Only
31	342.00	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos	181.12	Rupees One Hundred Eighty One And Paise Twelve Only
32	30.00	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm Copper strip	Mtrs	522.67	Rupees Five Hundred Twenty Two And Paise Sixty Seven Only
33	83.00	Supplying & fixing of retrofit type - LED bulb.....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 18W, 6500K	Nos	263.92	Rupees Two Hundred Sixty Three And Paise Ninety Two Only
34	18.00	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.63Amps	Nos	234.95	Rupees Two Hundred Thirty Four And Paise Ninety Five Only
35	83.00	Supplying and fixing of Spiral Earth Electrodes as per standard technical specification as per ESCOM.	Each	507.77	Rupees Five Hundred Seven And Paise Seventy Seven Only
36	100.00	Erection of steel supports 9.0 to 10.00 mtr long such as 22.68 kg (50 lbs) Rail, 27.22 kg (60 Lbs) Rail I Beam of sizes 200x100mm, 175x90 mm, 125x100 mm. Fabricates poles tubular poles in pits of 1.8 mtr Depth, Aligning, Refilling with soil and ramming as approved drawing (Releasing of LED Lights=90% of erction Charges Rs334x90%=300.6)	Each	311.12	Rupees Three Hundred Eleven And Paise Twelve Only
37	100.00	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires. (Releasing of LED Lights=90% of erction Charges Rs 175x90%=157.50)	Each	162.49	Rupees One Hundred Sixty Two And Paise Forty Nine Only
38	100.00	Hiring of 35 tons capacity Crane for releasing and refixing of High Mast	Hour	567.18	Rupees Five Hundred Sixty Seven And Paise Eighteen Only

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				In figures	In words
39	6.00	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.	Nos	71186.71	Rupees Seventy One Thousand One Hundred Eighty Six And Paise Seventy One Only
40	100.00	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.	Nos	30842.74	Rupees Thirty Thousand Eight Hundred Forty Two And Paise Seventy Four Only
41	83.00	Fabricating, Supplying and errection of decorative bent type Tuskar Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height and 139.7 mm dia perforated pole having colour changing LED Fixture, inside as suitable to the Drawing and picture. The base plate size of 350mm x 350mm x 18 mm for poles and a common baseplate of 900x320x20 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat & 6 nos 24 mm x750mm anchor bolts.	nos	120705.88	Rupees One Lakh(s) Twenty Thousand Seven Hundred Five And Paise Eighty Eight Only
42	150.00	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size	Mtrs	877.68	Rupees Eight Hundred Seventy Seven And Paise Sixty Eight Only
43		As per Applicable GST Charges			

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